1908MNRAS..68..664D

The Total Solar Eclipse of 1910 *May* 8.
By A. M. W. Downing, D.Sc., F.R.S.

This eclipse is observable in Tasmania, though not under very favourable conditions, owing to the Sun's low altitude at the time of totality.

The particulars for Hobart are given on page 444 of the *Nautical Almanac* for 1910. It will be noticed that the Sun sets before the ending of the partial phase of the eclipse.

Port Davey, in the south-west of Tasmania, is, however, a more favourable station from which to observe the total phase of this eclipse, the duration of totality there being half a minute longer than the duration at Hobart. Some particulars of the eclipse as seen from Port Davey are given, as an example of eclipse calculations, on page 590 of the *Nautical Almanac* for 1910. For the convenience of observers these are reproduced here, and some additional particulars added.

Port Davey. Long. 146° 0′ *E. Lat.* 43° 22′ *S.*

Standard Mean Time (10ʰ *East*).

		d	h	m	s	Angle from North Point.	Vertex.
First contact	May	9	3	4	2	247°	99°
Total Eclipse		9	4	11	55	52	272
		9	4	15	25	267	127
Sun sets		9	5	8			

With the existing errors of the lunar tables, the predicted times for the phases of the eclipse given above will be several seconds too late. It may be useful, therefore, to add the intervals in time from the instant when the cusps subtend a given angle at the Sun's centre to the commencement of totality.

Angle of Cusps.	Time before commencement of totality.
°	s
90	42
60	16
45	9
30	4
15	1

The Sun's altitude at the time of totality is 8°.

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The Perturbations of Halley's Comet in the Past. Fifth Paper. The period B.C. 240 *to* A.D. 760. By P. H. Cowell and A. C. D. Crommelin.

We have once more to commence by acknowledgment of the continued assistance that we have received from Dr. Smart and Mr. Cripps in the calculation of the mechanical quadratures.

The fourth paper of this series (*M.N.*, May 1908) traced the comet back to A.D. 760 June 10 (Julian day 1998810), the corrected value of n at that epoch being 46″·113. Hind's date for the previous passage is 684 Oct. 18, though the observed positions are too vague to fix the time of perihelion within several days. Mr. Knobel has shown that this comet was also observed in Japan (*M.N.*, lxvi., 2, p. 72) the date of first apparition, 684 Sept. 7, being in good accord with the date Sept. 6 of the Chinese records; he has, however, by a slip, given Hind's date of perihelion passage as Sept. 18 instead of Oct. 18.

Our computations indicate that Hind's identification is correct, the calculated date being 39 days later than his, which is a reasonable discordance for that remote epoch.

Revolution 684–760.

Planet.	Limits of *u*.	$\int dn.$	$\int d\varpi.$	$\int d\zeta.$
Venus	0°–30°	−″·002	″ ...	−″ 56
,,	330–360	−·006	...	...
Earth	0–30	+·011	...	+ 308
,,	330–360	−·002	...	...
Jupiter	0–90	+1·137	+560	+31720
,,	90–270	+·148	−523	+ 636
,,	270–360	−·983	+ 48	+ 170
Saturn	0–90	+·0219	+ 34	+ 612
,,	90–270	−·0312	−129	− 466
,,	270–360	+·0381	+ 54	− 7
Uranus	0–360	+·012	...	+ 280
	Sums	+·344	+ 44	+33197

Taking n in 760 as 46″·113, n in $684 = 45''\cdot769$, and period in days $= \dfrac{1296000 - 33197}{45\cdot769} = 27591$, which brings us to J.D. 1971219 = 684 Nov. 26.

The observations will scarcely permit so late a day as this for the perihelion passage. If we take the mean of Hind's value (Oct. 18) and our value Nov. 26 as the actual date, we must take n in 684 as 45″·737.

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